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ABSTRACT

This guide is intended for students and teachers who are starting environmental research. It includes: (1) a step-by-step aid to defining a question or problem; (2) an overview of information sources; (3) an index of environmentally related descriptors (key words) for use in locating information; and (4) worksheets to aid in organizing research and the information collected. Information sources provided in the overview include: informal sources; published sources; and information officers for businesss, government, and non-profit organizations. The published sources listed include libraries, key reference books, key source publications, key periodicals, key agencies, international environmental agencies, and Alberta government publications. Names and addresses of sources are provided when applicable. (JN)

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Revised Edition, April, 1984

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INTRODUCTION

Since the introduction of the **Environmental Fact Seeker's Guide** in 1976 the amount and quality of environmental information has increased dramatically. This revised edition brings together many of these new sources and updates publications and contacts.

The Guide is intended for students and teachers who are starting environmental research. Included is a step by step aid to defining the question or problem, an overview of information sources, a key word index, and work sheets to aid in organizing research and the information collected.

If you find new information sources or particularly good books please write us with the information so we can update the Guide.

1. THE NAME OF THE GAME

1.1 Communicating and Storing Information

Information Can be communicated:

Verbally through	conversation, argument, discussion, lecture lesson, seminar, workshop, interview, radio and television programs...
In writing	newspapers, magazines, newsletters, journals, books, letters, notes, reviews, abstracts, plays. poems, pamphlets, data sheets, ... or
Visually through	television, film, art, comic strip, diagram, filmstrip, slide, graph, blueprint, photo, map, plan, chart, poster, model, observation.

These are your potential sources.

How many do you normally employ?

Such diverse ways of communicating information have given rise to different ways of storing information.

1.2 Environmental Information ... can pertain to

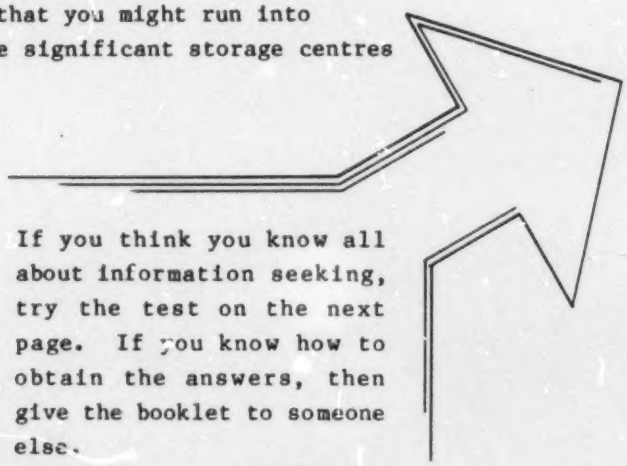
YOU
YOUR NEIGHBOURS
YOUR COMMUNITY
YOUR REGION
YOUR PROVINCE
YOUR COUNTRY
YOUR PLANET
AND SOMETHING CALLED
YOUR QUALITY OF LIFE

This booklet can assist you in finding information about your environments. Despite a lack of texts specific to Alberta environments, there are many publications available from a variety of agencies in Alberta and from the Federal Government in Ottawa.

If you live in an urban centre, most of this material is available in public libraries or through direct contact with the source agencies. Rural residents will have to resort to letter writing or use of the telephone.

The following pages provide;

- listings of the different forms of information
- some strategies for seeking information
- some problems that you might run into
- a guide to some significant storage centres
- and much more



If you think you know all about information seeking, try the test on the next page. If you know how to obtain the answers, then give the booklet to someone else.

1.3 A Self-Test For Seekers

QUESTION: Which group is the largest in your town or city - doctors, lawyers, or dentists?

CLUE = T..... Book

QUESTION: As a result of bridge construction, the main route (Highway 2) between Calgary and Edmonton is closed. What other route could you use to drive from one city to the other? What difference would there be in the mileage?

CLUE = Map

QUESTION: How great is the distance between your school and your house?

CLUE = ?

QUESTION: How many rivers are there in Alberta? How many start in this province?

CLUE = ?

QUESTION: Find out how many jobs (occupations) there are in the construction industry?

QUESTION: Has there ever been a fatal epidemic in your community? What were the dates of these occurrences?

QUESTION: What did the main street look like in your community in the first decade of this century?

QUESTION: When landowners wish to sub-divide and develop their property from whom do they obtain permission?

QUESTION: Is there any regulation of the disposal of sewage in Alberta? Who enforces the regulations?

QUESTION: Who is responsible for the management of wildlife resources in Alberta? Do all wild animals come under their authority?

QUESTION: If gasoline was rationed and only tradespeople were able to drive motor vehicles, what might happen in your community?

2. A STEP BY STEP WAY TO START

2.1 Questions Before Answers - Step 1

Is it trite to say that before going eagerly in search of information you should know what you are looking for? Some well thought out questions will vastly improve your chances of obtaining a high quality answer.

To assist students in deciding **exactly** what they desire to know, consider the following reminders:

WHAT?	Describe, discuss, and record the nature of the issue or subject in detail. (e.g. Renewable energy, such as the wind.)
WHERE?	Decide upon the geographical extent of the study. (e.g. Wind energy available in Alberta.)
WHEN?	Decide upon the time framework for the study. (e.g. Average wind velocities over the last ten years.)
WHO?	Consider if the study should be limited to a particular individual, group, or population. (e.g. Wind energy available for harnessing by Alberta householders.)
WHY?	Why is the issue of interest? (e.g. Declining reserves of non-renewable fossil fuels will necessitate alternative energy sources.)

Using the method of class discussion to first define a topic of interest and then following up with a search for answers to the above questions, it is then time to move on to the checklist shown overleaf.

2.2 Checklist for Information Seekers - Step 2

I want	opinions	proven facts
	outlines	field data
	estimates	test data
	summaries	illustrations
	hypotheses	monitoring data
	graphed results	evaluations
	perspectives	analyzed information
	descriptions	policies
that relate to	a particular location	a country
	Alberta	a continent
	another province	North America
	Canada	World
concerning	a resource	a person
	a program	a practice
	a law	a group
	a process	a development plan
	a management technique	a thing
in	the last decade	this year
	the last century	this week
	human history	today
	next year	the future

2.3 The Result: What You Really Want

Following this sequence a class recently decided they would like to know more about FLOW ENERGY. After a lively discussion, they successfully narrowed down their problems as follows:

> *"We want to gather descriptions of wind-powered generators that could produce electricity in Carstairs, Alberta, all year round. We need to find out who makes these generators, how much they cost, and what wind speeds are needed for their efficient operation. Furthermore, we need to obtain monitoring data about wind speeds in and around Carstairs."*

2.4 Writing Away for Information

If you write to someone asking for help with your information needs remember to be both PRECISE and CONCISE. Requests that are imprecise and vague usually get results that are imprecise and vague.

Indicate what you want. Indicate what you already have and what you have read so that time is not wasted in sending material you already have. Do not expect the person receiving the letter to do your research for you. Show them that you are working on the project and have some knowledge of what you are looking for.

Try to present your question or request simply and clearly so that detailed answers can be easily given.

It is probably better for one class member or one group representative to write than to send many requests of a similar type to the same person or agency. A teacher's signature on a class request may help speed a response. Try not to waste paper, time or energy. Remember, CONSERVATION is something to practice as well as to learn about.

3. YOUR SOURCES OF INFORMATION

3.1 Cautionary Words for Fact Seekers

Information occurs in many "shapes and sizes". It also comes in varying quality. Because information is communicated by non-perfect humans, it invariably incorporates **BIAS.** This is neither good nor bad but it should be clearly recognized.

The assumptions and evaluations that you make during the information seeking process will tend to make some pieces of information more acceptable to you than other pieces of information. Each one of us perceives the world in a slightly different way as a result of exposure to different circumstances and varying information. That this is true may be demonstrated by presenting a group with a particular series of events and asking each person to interpret what they observed. Considerable disagreement is likely to emerge because each person views the events within the context of their particular values, their own understandings and their own experience.

Varying perceptions play an important part in explaining why policies and plans often produce heated debate. To illustrate the fact that it is essential to **examine assumptions** before accepting "facts", consider the following situation:

> *Two citizens are engaged in fierce argument over a proposed park to be developed in the nearby ravine. One holds steadfastly to the view that the best plan is to make a roadway through the ravine along which mown lawns could provide neat picnic places. The other wants to see pedestrian access only; many trees and shrubs; access to the creek and a diversity of recreation opportunities for the local community. These two people clearly have different ideas about the concept of a "park". One man believes that a park should be neat and tidy; contain no hazards and be easily accessible by car. The other fellow sees a park as a place where excitement, challenge, and variety are offered in a natural setting.*

It is probable that these two people, if asked to present their cases before City Council, would tend to seek out those items of knowledge that supported and reinforced their particular sets of assumptions. We all have pre-conceived notions and, in both communicating and receiving information, these tend to bias the facts.

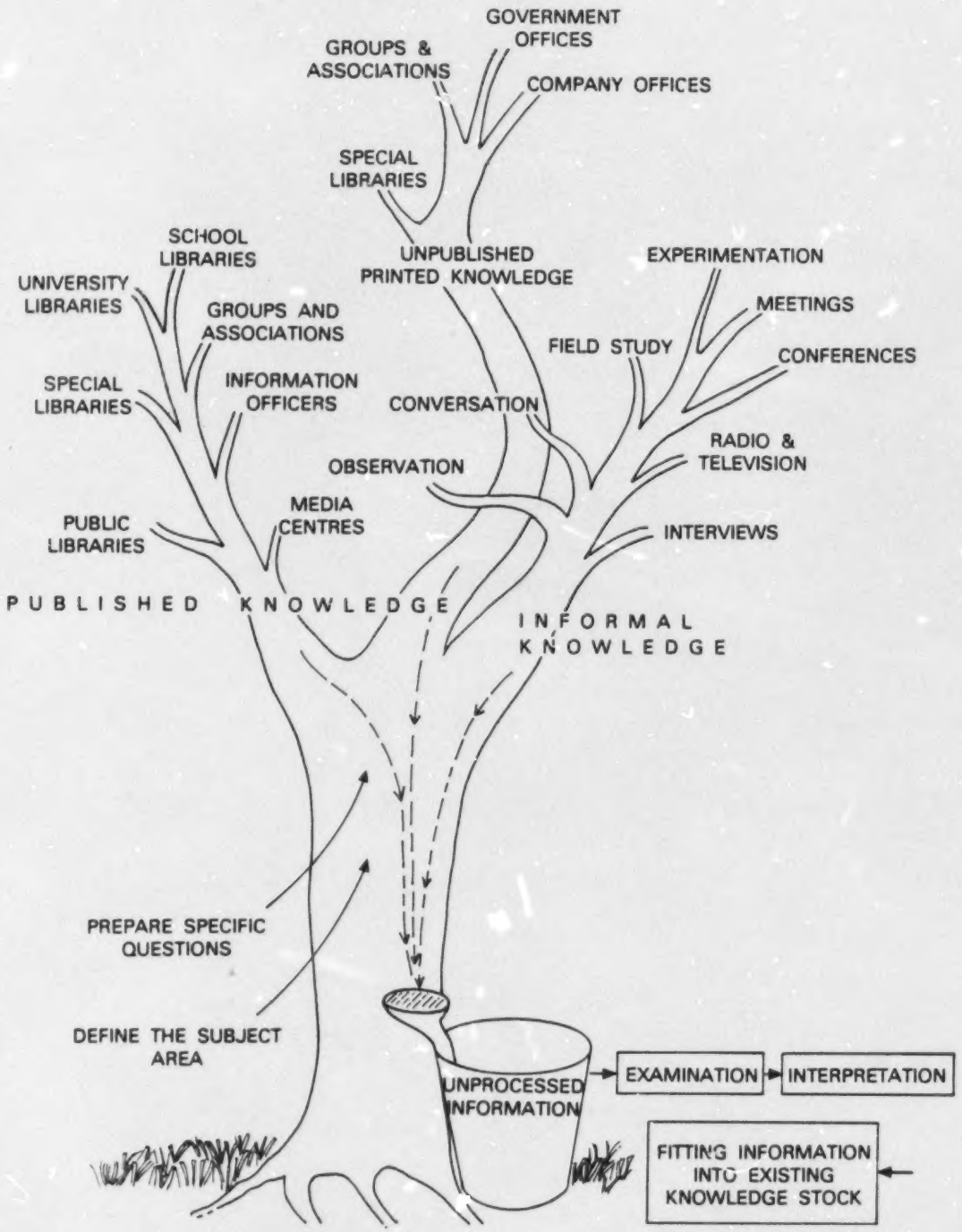
3.2 Access to Information

Information written down and published should be easy to find because it is probably kept in a LIBRARY somewhere. The same is true for audio-visual materials.

Verbally communicated information is scattered throughout your environment. It requires you to seek it out for yourself. This kind of knowledge we have called informal.

Not all information that appears is PUBLISHED but it may still be available upon request. Items such as briefs to public hearings, speeches, plans and community studies go to the printers and get PRINTED but may be referred to as UNPUBLISHED information. A request to an appropriate person in the group, company, or agency may get you an unpublished copy for use in a class project.

3.3 An Illustration: TAPPING THE INFORMATION TREE



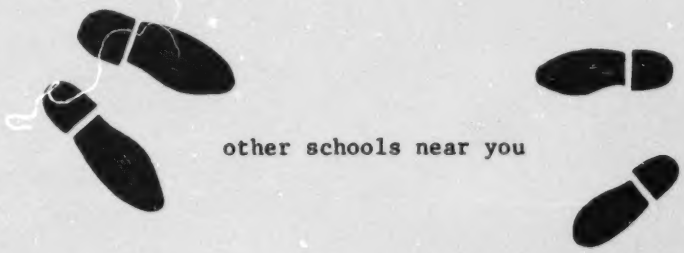
3.4 The Informal Sources

Not all knowledge exists in a library. A great deal of information has never been written down, let alone published. PEOPLE are very important stores of information and this is particularly true for historical information concerning a local community. Use a telephone directory to seek out people in your area.

PEOPLE TO LOOK FOR

Your School

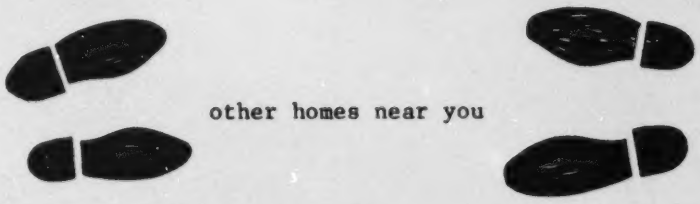
Teachers, librarian
Principal
Janitor, Gardener
Maintenance engineer



other schools near you

Your Home

Family
Relatives
Neighbours
Friends



other homes near you

Your Community

Shopkeepers	Farmer
Garage Owner	Policeman
Doctor	Minister/Priest
Plumber	Electrician
Lawyer	Nurse
Old Timer	Bank Manager
Naturalist	Sportsman
Craftsman	

other communities near you

Using your own observation skills will produce a wealth of material. Carry out interviews or hold discussions with people you meet; you may be surprised at how many good leads they come up with.

3.4.1 Places to Visit For Observation and Interviews

Church - Town hall- Cemetery - Park - Beach - Sportsground - Museum - Store - Hospital - Fire Station - Police Station - Factory - Bus Depot - Railway Station - Garage - Airport - Restaurant - Dairy - Newspaper Office - Farm - Bakery - Water Treatment Plant - Sewage Facility - Electricity Generating Plant - Town Hall - Municipal or County Office.

3.4.2 Methods

There are some interesting ways to **gather** information.[1] Here are just a few suggestions to get you started, but see how many ideas you can add to the list.

Take Photographs
Tape record
Make a movie film
Draw a map
Sketch
Paint
Observe
Describe
Count
Set up an experiment
Weigh
Measure
Observe at different times (seasons, day/night)

Listen and describe what you hear
Look and write down what you observe
Feel and describe textures and shapes
Watch people doing things
Look at objects and observe wear - What might you learn from these observations?
Visit a place at different times of the year
Offer to help someone
Observe how things change
Seek out indirect evidence for the presence of things, e.g. footprints, spoor, remains, etc.

1 An interesting book full of different ideas about research methods is Unobtrusive Measures: Nonreactive Research in the Social Sciences, Eugene J. Webb et. al., 1966. ISBN 0-528 68694-1 Rand M^cNally. This book went out of print in 1981, but copies may be found in larger libraries.

3.5 The Published Sources

3.5.1 The Libraries

Most libraries have a very large number of books stored on their shelves arranged so as to make it easy to find material on a selected subject. Remember too, many libraries contain magazines, newspapers, journals, tapes, records, games, and microfilm materials.

To discover what is available in a library, check the CARD CATALOGUE. Better still ask your librarian where and how material is recorded in the library catalogues so you can find it yourself.

In larger libraries, such as those in universities, written guides are prepared to assist you in using their collection. Many libraries have INFORMATION desks where experienced staff can direct you to materials that will help answer your questions.

You can save a lot of time if you can obtain a list that summarizes available information on your topic. These lists are given various names such as CATALOGUE, DIRECTORY, BIBLIOGRAPHY, GUIDE, INDEX, AND ENCYCLOPEDIA. Look for them and use them because browsing is an inefficient use of your time.

There are many libraries in Alberta and they are listed in the Alberta Library Directory, available from Alberta Culture, Library Services Branch, 427-2556.

a) School Libraries

Your own school is where to begin any search and if you run into problems then ask your school librarian for help. Such a person should be in contact with other libraries in your area and may be able to find material which can be brought to your school. If you would like to know more about school libraries, correspond with the Consultant in Media and Curriculum for School Libraries, Alberta Education, 10053 - 111 Street, Edmonton, T5K 2H8, tel: 427-2952.

b) Public Libraries

Nearly every community in Alberta has a public library. Be careful though. Many may only be open on certain hours so it is best to check before making the trip. As in any library it is best to approach the librarian with your information seeking questions. If the book or material

you ask for is unavailable there may be other useful materials that can be recommended. You can also ask the librarian to check with a library in a larger centre or even with the regional headquarters to see if the material you have requested is in their collection. Librarians often lend material to one another and in this way it is possible to borrow books from many places in Canada and even from the U.S.A. In Alberta, the Extension Library in Edmonton regularly sends books all over the province in response to written requests.

c) Other Libraries

1. **Community College Libraries** - Community colleges are located in many Alberta settlements. The libraries are usually open to the public for use, if not for complete borrowing privileges. Before visiting one of these libraries, telephone the librarian to see if there are restrictions on the use of the collection.

2. **University Libraries** - The use of Alberta's university libraries should not be overlooked. Although you may not be able to take material away from the library, it is usually true that you can make use of books and other materials on the premises. Once again, phone first to see if any special restrictions apply.

3. **Special Libraries** - Libraries which exclusively serve an organization, business, or a government department are known as 'special" libraries. These libraries often contain material devoted to a specialized subject area, and are of a more technical nature. Borrowing from these libraries is usually restricted. However, use of material within the library is a common practice but should be cleared first with the librarian.

4. **Extension Library** - This library, located at the University of Alberta in Edmonton, provides a free books-by-mail service to all people who do not have ready access to a public library. Requests for books are accepted but specific information for a class project should be directed to the Consultant in Media and Curriculum for School Libraries (see p. 12).

5. **Boreal Institute for Northern Studies Library** - This facility is also located at the University of Alberta in the Bio-Sciences Centre. The collection covers materials from all disciplines dealing with the "North". Information about northern parts of Canadian provinces, Northwest Territories, and the Yukon is to be found in this library. Borrowing privileges are available to the public.

6. **Audio-Visual Centre** - Many school boards, individually and in consortia, maintain good collections of audio visual materials in a centralized facility. At the University of Alberta in Edmonton there is an Educational Media Division which provides province-wide services for those wishing to borrow a variety of materials. ACCESS Alberta has a large audio-visual lending library.

Some of the more important libraries are listed on the following pages. Remember to phone first before making a visit.

Libraries

University of Alberta Edmonton, T6G 2E1	- library	432-4174
Boreal Institute for Northern Studies CW 401, Biological Sciences Building University of Alberta Edmonton, T6G 2E1	- library	432-4409
Adult Student Centre Faculty of Extension Room 126, Corbett Hall University of Alberta Edmonton, T6G 2G4	- library - Education Media Division	432-5044 432-5040
University of Calgary Calgary, T2M 1Z9	- library	284-5962
Information Services University of Lethbridge 4401 University Drive Lethbridge, T1K 3M4	- library	329-2263
Provincial Museum and Archives 12845 - 102 Avenue Edmonton, T5E 4E3	- library and archives	427-1750
Alberta Environment 9820 - 106 Street Edmonton, T5K 2J8	- library	427-5870
Alberta Recreation and Parks 9th Floor, Standard Life Centre 10405 Jasper Avenue Edmonton, T5J 3N4	- library	427-7638

Alberta Energy and Natural 9920 - 108 Street Edmonton, Alberta T5K 2M4	- information centre	427-3590
Environment Council of Alberta 8th Floor, Weber Centre 5555 Calgary Trail Edmonton, T6H 5P9	- library	427-5792
Legislative Building 216 Legislative Building Edmonton, T5K 2B6	- library	427-2473
Energy Resources Conservation Board 603 - 6th Avenue S. W. Calgary, T2P 0T3	- library	261-8311
Alberta Research Council 11315 - 87 Avenue Edmonton, T6G 2C2	- library	439-5016
Alberta Education Audio Visual Services 4th Floor, West Tower Devonian Building 11160 Jasper Avenue Edmonton, T5K 0L2	- Audio Visual Media Centre	427-2945
Provincial Film Library 11510 Kingsway Avenue Edmonton, T5G 2Y5	- library	427-4381
Glenbow Museum 130 - 9th Avenue S.E. Calgary, T2G 0P3	- archives	264-8300
ACCESS Alberta Media Resource Centre 295 Midpark Way, S.E. Calgary, T2X 2A8	- audio-visual lending library	256-1100

Canadian Wildlife Service Room 1000, 9942 - 108 Street Edmonton, T5K 2J5	- library	420-2525
Canadian Forestry Service Northern Forest Research Centre 5320 - 122 Street Edmonton, T6H 3S5	- library	435-7210

3.5.2 Key Reference Books

Atlas of Alberta

National Atlas of Canada

Canada Water Yearbook (1975)
(Environment Canada,
Ottawa, Ontario, K1A 0H3)

Alberta Business Index of
Manufacturers in Alberta
(Alberta Industry and
Commerce, 1975)

Canadian Almanac and Directory
(1984, Susan Bracken, Ed.,
Copp Clarke)

The Corpus Almanac and Canadian
Source Book, (1983, C. E.
Clark, Ed.)

Canadian Mines Handbook
(Northern Miner Press Ltd
77 River Street
Toronto, Ontario M5W 1A7)

Alberta Industry and Resources
Alberta Economic Development

Encyclopedia of Science and
Technology, McGraw Hill

Alberta Statistical Review

Census of Canada

Canada Yearbook

Historical Statistics of Canada
(2nd. Edition, 1983, F.H. Lacey, Ed.,
Macmillan)

Telephone Directories

World Almanac

Dictionary

The Canadian Encyclopedia
Hurtig Publishers Ltd.
10560 - 105 Street
Edmonton, Alberta T5H 2W7
(to be published in 1985)

Alberta Resources Information Directory
Alberta Energy and Natural
Resources, 1984

Canadian North Almanac (Research Institute of Northern Canada, P.O. Box 188, Yellowknife, N.W.T. X0T 1H0)	The Canadian Encyclopedia Hurtig Publishers Ltd. 10560 - 105 Street Edmonton, Alberta T5H 2W7 (to be published in 1985)

3.5.3 Key Source Publications

Canadian Conservation Directory	Annual Canadian Nature Federation 48 Elgin Street Ottawa, Ontario, K1P 5K6
Films on the Environment	National Film Board of Canada (1) 344, 12th Avenue S.W. Calgary, Alberta T3R 0H2 (2) 10031 - 103 Avenue Edmonton, Alberta T5L 0G9
Canada Environment Publications	Environment Canada Ottawa, Ontario, K1A 0H3
Alberta Environment Publications	Communications Division Alberta Environment Oxbridge Place 9820 - 106 Street Edmonton, Alberta T5K 2J6
World Directory of Environmental Organizations	Sierra Club, Special Publications Sequoia Institute P.O. Box 30 Clarement, Calif. 91711, U.S.A.
Index of Urban and Regional Studies	Alberta Municipal Affairs 9925 - 107 Street Edmonton, Alberta T5K 2H9
Statistics	Statistics Canada Room 215, 11010 - 101 Street Edmonton, Alberta T5H 4C5

3.5.4 Key Periodicals Published in Canada

Nature Canada	Magazine Services, Canadian Nature Federation 46 Elgin Street Ottawa, Ontario, K1P 5K6
Alternatives	Trent University Peterborough, Ontario K9J 7B8
Science Forum	U. of T. Press Toronto, Ontario M5S 1A6
Conservation Canada	Parks Canada 400 Laurier Avenue West Ottawa, Ontario K1A 0H4
Canadian Heritage	Canadian Heritage Foundation 306 Metcalfe Street Ottawa, Ontario K2P 0W1
Probe Post	Pollution Probe 12 Madison Avenue Toronto, Ontario M5R 2S1
Environment Views	Alberta Environment 9820 - 106 Street Edmonton, Alberta T5K 2J6
Watershed	Pumphouse Publishing Bag 5000 Fairview, Alberta T0H 1L0
Harrowsmith	Camdem House Publishing Ltd. Camden East Ontario, Canada K0K 1J0
Canadian Geographic	Royal Canadian Geographic Society 488 Wilbrod Street Ottawa, Ontario K1N 6M8
Equinox	Equinox Publishing 7 Queen Victoria Road Camden East, Ontario, K0K 1J0

3.5.5 Key Agencies of Environmental Information

Contact the Information Officers at any of the following agencies:

Public Relations Department Atomic Energy of Canada Ltd. Whiteshell Nuclear Research Establishment Pinawa, Manitoba ROE 1LO	publications list
Environmental Council of Alberta 8th Floor, Weber Centre 5555 Calgary Trail Edmonton, Alberta T6H 5P9 427-2473	publications list available.
Alberta Agriculture (Check phonebook for local District Agriculture office or phone Edmonton 427-2727)	publications list
Alberta Education Devonian Building 11160 Jasper Avenue Edmonton, Alberta T5K OL2	Environmental Education Manual K - 12
Alberta Environment Oxbridge Place 9820 - 106 Street Edmonton, Alberta T5K 2J6	pamphlets, reports, data legislation
Alberta Oil Sands Technology and Research Authority #500 10010 - 106 Street Edmonton, Alberta T5K 2H9 427-7623	research data, oil sands environmental impact information
Alberta Department of Energy and Natural Resources 9915 - 108 Street Edmonton, Alberta T5K 2M4	Renewable Resource Information 427-3590 Non-Renewable Resource Information 427-2738

Alberta Culture 12th Floor, C.N. Tower Edmonton, Alberta T5J 0K5	archaeological studies, heritage studies, ethno-cultural studies,
Alberta Department of Recreation and Parks 16th Floor 10405 Jasper Avenue, Edmonton, Alberta T5J 3N4	ecological reserves, parks, outdoor recreation, environmental education
Alberta Research Council 5th Floor, 4445 Calgary Trail Edmonton, Alberta T6H 5R7 438-1666	publications list available, reference material, oil sands information,
Resource Centre Alberta Department of Consumer and Corporate Affairs 10th Floor, Capitol Square 10065 Jasper Avenue Edmonton, Alberta T5J 3B1 427-5782	Consumer education materials
Canadian Wildlife Service Ottawa, Ontario K1A 0H3	wildlife resource information management reports, ecological research,
Canadian Forestry Service Northern Forest Research Centre 5320 - 122 Street Edmonton, Alberta T6H 3S5	forest resource information research reports
Government of Canada Tel: Edmonton 420-2121	information on all departments
Canadian Petroleum Association 15th Floor 633 6 Avenue S.W, Calgary, Alberta T2P 0T3	
Solar and Wind Energy Research Project (Contact: Alberta Research Council)	solar and wind energy

Solar Energy Society of Canada, Inc.
tel: 439-6466

solar energy

SEEDS (Society, Environment and Energy Development Studies)
10169 104 Street
Room 440
Edmonton, Alberta T5J 1A5

energy and environment related materials grades 1 to 12
Alberta field trip guides

3.5.6 International Environmental Organizations

These organizations may or may not have free information. Consult **Environment Views**, Volume 7, Number 2, March/April, 1984, to find out about the problems or special interests of these various groups.

Canada-United States Environment Council
c/o Canadian Nature Federation
75 Alberta Street
Ottawa, K1P 6G1

Centre for International Environment Information
300 E 42nd Street
New York, NY, USA
10017

Elsa Wild Animal Appeal
PO Box 4572
North Hollywood, CA, USA
91607

Friends of the Earth
53 Queen Street
Ottawa, K1P 5C5

Greenpeace Foundation
2623 West 4th Avenue
Vancouver, V6K 1P8

International Ecology Society
1471 Barclay Street
St. Paul, MN, USA
55106

Institute of Ecology
Holcomb Research Centre
Butler University
4600 Sunset Avenue
Indianapolis, IN, USA
55106

International Fund for Animal Welfare
PO Box 193
Yarmouth Port, MA, USA
02675

International Institute for Environment and Development
10 Percy Street
London, England
W1P 0DR

International Union for the Conservation of Nature and Natural Resources
Avenue du Mont Blanc
CH-1196, Gland, Switzerland

Rachel Carson Council Inc.
8940 Jones Mill Road
Washington, DC, USA
20015

United Nations Environment Program
PO Box 30552
Nairobi, Kenya

World Wildlife Fund
60 St. Clair Ave. E.
Suite 201
Toronto, Ontario, M4T 1N5

Dag Hammarskjold
Ovre Slottsgatanz
S-752 20 Uppsalla, Sweden
(Magazine - Development Dialogue)

International Society for the Protection of Animals
29 Perkins Street
Boston, MA, USA
02130

Oceanic Society
Stamford Marine Centre
Magee Avenue
Stamford, CT, USA
06902

Sea Shepherd International
PO Box 48446, Bentall Centre
Vancouver, V7X 1A2

Worldwatch Institute
1776 Massachusetts Avenue NW
Washington, DC, USA
20009

Man and Biosphere (MAB)
c/o Canadian Commission for UNESCO
255 Albert Street
Ottawa, Ontario K1P 5V8
1-613-237-3400

3.5.7 Alberta Government Publications

Each year many items of information are prepared within government offices. Some are published by a particular department, while others are published by the Queen's Printer in Edmonton. A list of publications (updated every six months) is available by writing:

Queen's Printer Book Store
11510 Kingsway Avenue
Edmonton, Alberta T5G 2Y5
427-2759

The Legislative Assembly is a source of information and a letter to your local MLA will often bring a detailed response to questions about policies and development plans. Legislative Committees are formed to look at particular issues and their findings are usually published. To discover what goes on when the Legislature is in session, you should take a look at HANSARD, which is the record of all the proceedings. Most large libraries will have a copy.

3.6 Information Officers

Many large organizations, businesses and government agencies have staff members whose sole responsibility is to provide information. Letters directed to these people will often bring forth kits of material or answers to specific questions.

3.6.1 Government

Municipal Level - In the larger centres you will find information people in the administrative office.

Provincial Level - Nearly every government department has a Public Affairs Officer. These people can be contacted by writing or telephoning the department's main office in Edmonton. Not all government business is conducted from Edmonton and you will discover many regional and district offices around the province. While there may not be a Public Affairs Officer, you should be able to find someone willing to help you.

A listing of government departments and their programs is available in the GOVERNMENT OF ALBERTA TELEPHONE DIRECTORY. Copies are available in government offices or may be purchased from the Queen's Printer for $1.00. A call to the Regional Information Telephone Enquires **R.I.T.E.** number may be your best way to locate the people you need to answer questions. The RITE network provides a convenient way to give Alberta residents access to government information free of charge. Check in your telephone directory for your local RITE number. Look under 'Government of Alberta.'

National Level - Federal government departments will also provide information but not all departments have Alberta offices. It may be best to write directly to Ottawa and address your enquiry to the Information Officer in a particular department.

3.6.2 Businesses

Many large organizations involved in projects that require environmental planning have information staff who issue press releases, prepare public information leaflets and generally offer information about their companies' activities and policies.

When working on a project think about which businesses might have some interest in the topic and contact their information office or public relations office.

3.6.3 Non-Profit Organizations, Clubs, and Societies

There are a multitude of agencies throughout Alberta that often have information packages of various kinds that could be helpful in a particular study. The telephone directory is probably your best guide followed by a call or a letter to the agency. Look for Chambers of Commerce, Tourist Bureaus, trade associations, professional societies, foreign government offices, legations, and embassies.

For a listing of the clubs, groups, and associations that have interests related to the environment contact:

The Environment Resources Centre
10765 - 98 Street
Edmonton, Alberta T5H 2P2
433-8711

3.7 Selected Items of Information and their Sources

Land Titles	Land Titles Building 102 A Avenue & 100 Street Edmonton, Alberta T5J 2T3
Historical Records	Provincial Archives 12840 - 102 Avenue Edmonton, Alberta T5N 0M6
	Glenbow Museum 130 - 9th Avenue S.E. Calgary, Alberta T2G 0P3
	local municipal archives
	parish records
	University archives
	local historical societies
Aerial photographs	Alberta Maps and Air Photo Distribution Centre Alberta Energy and Natural Resources 2nd Floor, North Tower Petroleum Plaza Edmonton, Alberta T5K 2G6
	planning departments at each government level
Maps	Alberta Maps and Air Photo Distribution Centre (see above)
	Alberta Research Council 5th Floor, 4445 Calgary Trail South Edmonton, Alberta T6H 5R7
	Map libraries in universities and archives

Statistics	Bureau of Statistics Sir Frederick W. Haultain Building 9811 - 109 Street Edmonton, Alberta T5K 0C8
	Statistics Canada Room 215 11010 - 101 Street Edmonton, Alberta T5H 4C5
Free literature	Government departments industry utility companies trade companies non-profit organizations

4. BUILDING YOUR OWN RESOURCE CENTRE

It is extremely important that information once obtained is not lost. It is downright foolish and probably somewhat demoralizing when students see their reports simply marked and discarded. Make sure your assignments are different enough from year to year so that past studies can be used and built upon. What you will end with is an extremely valuable resource centre if thought is given to the organization of materials.

4.1 Subject Areas

When setting up files of information, the following subject areas might be initially useful to sort materials. You will probably have to add to the subject areas with time.

Air quality; chemical and biological contamination; energy; environmental education; environmental design; food and drugs; global environmental issues; land use and misuse; noise pollution; non-renewable resources; oceans and estuaries; population planning and control; predictions of future environmental quality; radioilogical contamination; recreation; renewable resources; solid waste; transportation; water quality; weather modification and geophysical changes; wildlife and forests.

4.2 KEYWORDS

What follows is an alphabetical listing of keywords which might come in handy while tracking down information.

Acid rain
Acoustical Environment
Aesthetics
Agricultural Chemicals
Agricultural Wastes
Air Pollution Control
Air Pollution Forecasting
Air Pollution Sources
Air Quality Criteria
Aircraft and Auto Emissions
Alternative Lifestyles
Asbestos

Beryllium
Biocides
Biological Controls
Biological Indicators
Biological Warfare
Birth Control
Boron

Cadmium
Carbon Monoxide
City Planning
Citizen Action
Coal Mining Techniques
Conservation
Conservation Educations
Conservation Policies

Citizen Participation
Climate Modification
Climatic Factors

Demography
Depletion of Resources
Desalination

Ecology
Ecosystem
Effluents
Electric Power Generation
Emission
Endangered Species
Energy
Energy Technology
Environment
Environmental Action
Environmental Assessment
Environmental Attitudes
Environmental Change
Environmental Criteria
Environmental Design
Environmental Economics
Environmental Education
Environmental Effects

Fallout
Family Planning
Fertilizer Pollution
Fisheries Management
Fission and Fusion
Fly Ash

Gas
Garbage
Geothermal Power

Habitat Creation
Habitat Improvement
Habitat Management
Habitat Restoration

Controlled Environments
Costs of Pollution
Cultural Environment

Design Factors
Detergents
Disarmament

Environmental Guidelines
Environmental Health
Environmental Impact
Environmental Influences
Environmental Law
Environmental Legislation
Environmental Management
Environmental Planning
Environmental Planning
Environmental Policy
Environmental Politics
Environmental Protection
Environmental Quality
Environmental Research
Environmental Standards
Environmental Toxicology
Erosion
Eutrophication
Evolution

Food Additives
Food Processing
Food Supply
Forestry Management
Fossil Fuels

Government, Environmental
Policies of
Groundwater Contamination
Growth, Effects of

Heavy Metals
Herbicides
Highways, Impact of
Human Development

Hazardous Wastes
Heat Pollution

Land Acquisition
Land Reclamation
Land Use Planning
Landfill
Landscape Architecture

Marine Biology
Marine Ecology
Mass Transit
Mercury
Meteorological Factors and Pollution

Natural Resources
Nature Centres
Nature Interpretation
Nitrates
Nitrogen Dioxide
Noise
Nuclear Disarmament

Occupational Health
Ocean Dumping
Ocean Resources
Odour
Offshore Minerals
Offshore Oil

Parks
Particulates
Perception
Pesticides
Pesticides Residues
Petroleum Reserves
Phosphates
Petrochemical Smog
Pipelines
Plastic Wastes

Quality Indices

Hunting
Hydroelectric Power

Lead
Light Rapid Transit
Litter
Livestock Wastes
Logging, Impact of

Microwave Radiation
Mineral Resources
Monitoring and Sensing Techniques
Municipal Refuse Handling
Mutagenic

Nuclear Power Generation
Nuclear Reactors, Impact of
Nuclear War, Impact of
Nuclear Waste Storage
Nuclear Wastes
Nutrients
Nutrition

Oil
Oilspill Cleanup
Open Space Planning
Outdoor Education
Overpopulation
Ozone

Pollution
Population Dynamics
Power Plant Pollution
Primary Productivity
Public Attitudes
Public Health
Public Lands
Pulp Mill Wastes
Pyrolysis

Radiation
Radioactive Wastes
Radioactivity
Rare Species
Reclamation Techniques
Recreational Impact
Recreational Vehicles
Recycling
Refuse Disposal
Regional Planning
Remote Sensing
Residuals Management
Residues
Resources
Resource Inventories
Resource Management

Sampling Techniques
Sanitary Landfill
Seasons
Sediment
Seepage
Sewage Treatment
Sewers
Simulation
Sludge Systems
Social Costs
Social Environment
Socio-cultural Patterns
Socio-economic Patterns
Solar Energy
Solid Waste
Source Inventories
Spillover Effects
Special Wastes
Strip Mining, Impact of
Sulphur Dioxide
Sour Gas
Survival
Systems Ecology
Systems Management
Systems Modelling
Systems Simulation

Tailings Management
Technological Advancement
Teratogenic
Thermal Pollution
Trace Metals
Transit
Transportation
Treatment Systems

Urban Planning
Urban Pollution
Urbanization

Values and Ethics
Visual Environment
Visual Pollution

Waste Disposal
Waste Reduction
Water Demand
Water Diversion
Water Impoundment
Water Pollution Control
Water Pollution Sources
Water Resources
Watershed Management
Weather Modification
Wetlands
Wild Rivers
Wilderness Areas
Wildlife Management
World Environmental Problems

4.3 Local Information Resource Directories

A useful tool for teachers interested in environmental education, particularly when they take the students outside the classroom on a regular basis, is a directory of local sites and information sources.

Two useful resource guides are:

Environmental Education Catalogue of Resources for Grades 1 to 12 available from:

School Book Branch
Alberta Education
10410 121 Street
Edmonton, T5N 1L2

and

Alberta Field Trip Guide: A Guide to Resource Centres for Energy/Environmental Education, available from:

SEEDS
10169 104 Street
Room 440
Edmonton, T5J 1A5

We also know that in centres like Calgary the outdoor educators have a file on good places to visit on educational field trips. It is an example that other administrations might consider investigating. The kind of information offered in such a directory should be quite brief but provide essential details about the site, any restrictions upon numbers and times for visits, written materials available, and a contact person for setting an appointment.

The Information Source Directory might look like the sample overleaf. It will fit nicely on a standard file card.

Information Source Directory Data Card

1. Service/Information Centre:
   Visitor Services Branch
   Alberta Recreation and Parks
   16th Floor, Standard Life Centre
   10405 Jasper Avenue
   Edmonton, Alberta T5J 3N4
   Tel: 427-9430

2. Source Person: Audrey Ellis, Head, Information Services Section

3. Local Representatives: Regional Offices in Valleyview, Lac La Biche, Rimbey, Vulcan, and Canmore. Contact Visitor Services Supervisor.

4. Function: Plans and maintains provincial parks, recreation areas and ecological reserves. Certain parks have interpretive programs.

5. Resource Materials: resource reports for selected parks, park plans, audio/visual materials, environmental education information packages for selected parks, library in head office

If you have compiled an Information Source Directory for your area drop a note to:

Environmental Education Resources Branch
Alberta Environment
9820 - 106 Street
Edmonton, Alberta T5K 2J6

APPENDIX

The following pages are to be used as ditto masters by a teacher or librarian and should not be written upon, and therefore consumed, by someone wishing to keep an accurate record of their research. **Remove the following pages, have copies made, then staple the pages to the inside back cover.**

The value of an accurate search record is that no matter what the final outcome of the researchers' efforts in terms of a report, his/her **efforts can be assessed.** The researcher's problem may be the result of poor search techniques but may also simply be the lack of recorded information on the topic chosen.

INFORMATION SEARCH RECORDS

NAME.....

ASSEMBLING THE TOPIC:

YOUR INITIAL QUESTIONS TO DEFINE A TOPIC:

WHAT?_____

_____

WHERE?_____

_____

WHEN?_____

_____

WHO?_____

_____

WHY?_____

_____

Preparing an information search record is the best way of defining your problem. With the information you have available at the start of your project answer the above questions. As you learn more about the problem you may have to come back and refine your answers to these questions. By carefully defining your problem you can concentrate all your efforts on the problem. You are not floundering in a sea of information without guidance. In addition, all your work is recorded so that when reviewing your information you can see where pieces are missing or where research is weak. It might be worthwhile to glance through the publication **Environmental Fact Seeker's Guide.** These records sheets are modelled after this publication. Especially, read pages 1, 2, 5, and 6. It will take about 5 minutes. The publication should be in the library. Ask the librarian.

CHECKLIST OF INFORMATION DESIRED

I WANT _____

_____

THAT RELATE TO _____

_____

CONCERNING _____

_____

IN _____

_____

WHAT I REALLY WANT TO OBTAIN INFORMATION ON:

_____

_____

_____

_____

_____

_____

_____

_____

Some key words in the study search:

_____ _____

_____ _____

_____ _____

_____ _____

(Check the four that turn out to be most useful)

Some key reference books:

_____

_____

_____

_____

Some key periodicals:

_____

_____

_____

_____

Some key agencies:

_____

_____

_____

_____

Other key sources:

_____

_____

_____

_____

THE SEARCH: AN ACCURATE LOG OF MY ACTIVITIES

STEP NO.	DATE	DESCRIPTION OF SEARCH ACTIVITIES	DEGREE OF SUCCESS	TIME SPENT